

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of : **BOX: Patent Application**
Thibaut MONTANARI *et al.* : Group Art Unit: Not yet assigned
Serial No.: Not yet assigned : Examiner: Not yet assigned
Filed: January 25, 2002
For: POLYAMIDE-BASED TRANSPARENT COMPOSITION

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington DC, 20231

SIR:

Prior to examination please amend the above-identified application and consider the remarks as follows:

IN THE CLAIMS

Please amend the claims as follows:

1. (Amended) A transparent composition comprising, by weight, the total being 100%:

5 to 40% of an amorphous polyamide (B) which results from the condensation of at least one optionally cycloaliphatic diamine, of at least one aromatic diacid and optionally of at least one monomer chosen from:

α,ω -aminocarboxylic acids,
aliphatic diacids,
aliphatic diamines,

0 to 40% of a supple polyamide (C) chosen from copolymers containing polyamide blocks, polyether blocks and copolyamides,

0 to 20% of a compatibilizer (D) for (A) and (B),

(C) + (D) is between 2% and 50%,
with the condition that (B) + (C) + (D) is not less than 30%, and
the difference to 100% is made up with a semi-crystalline polyamide (A).

2. (Amended) The composition according to claim 1, wherein (A) is derived from the condensation of a lactam containing at least 9 carbon atoms, of an α,ω -aminocarboxylic acid containing at least 9 carbon atoms or of a diamine and a diacid wherein the diamine or the diacid contains at least 9 carbon atoms.

3. (Amended) The composition according to claim 1, wherein (A) is PA-11 or PA-12.

4. (Amended) The composition according to claim 1, wherein (A) is an equilibrated polyamide.

5. (Amended) The composition according to claim 1, wherein the amorphous polyamide (B) comprises a cycloaliphatic diamine.

6. (Amended) The composition according to claim 1, comprising (C) and wherein (C) is a copolymer comprising polyamide blocks and polyether blocks.

7. (Amended) The composition according to claim 6, wherein polyamide blocks are PA-6 or PA-12 blocks and the polyether blocks are polytetramethylene glycol (PTMG) blocks.

8. (Amended) The composition according to claim 1, comprising (C) and wherein (C) is a copolyamide.

9. (Amended) The composition according to claim 1, wherein (A) is PA-12 and comprising (D) wherein (D) is PA-11.

10. (Amended) The composition according to claim 1, comprising (D) and wherein (D) is a catalyzed polyamide.

11. (Amended) The composition according to claim 1, wherein (A) is PA-12 and comprising (D) wherein (D) is a catalyzed PA-11.

12. (Amended) The composition according to claim 1, wherein the proportion of (B) is between 10% and 40%.

13. (Amended) The composition according to claim 12, wherein the proportion of (B) is between 20% and 40%.

14. (Amended) The composition according to claim 1, wherein the proportion of (C) + (D) is between 5% and 40%.

15. (Amended) The composition according to claim 14, wherein the proportion of (C) + (D) is between 10% and 40%.

16. (Amended) An article produced by injection-molding a composition according to claim 1.

17. (Amended) The article according to claim 16, decorated by sublimation and coated with a transparent protective layer.

Please **add** the following NEW claims:

--18. The composition according to claim 1, wherein the amorphous polyamide (B) comprises at least one monomer chosen from: α,ω -aminocarboxylic acids, aliphatic diacids, and aliphatic diamines.

19. The composition according to claim 1, in the form of an article having a modulus of flexure between 600 and 1400 Mpa.

20. The composition according to claim 1, wherein the semi-crystalline polyamide (A) comprises monomers containing at least 9 carbon atoms.

21. The composition of claim 20, wherein the semi-crystalline polyamide (A) comprises at least one: PA11, PA12, PA10.12, and coPA10/9.12.

22. An article comprising the composition according to claim 1.

23. The article according to claim 23 selected from a plate, a film, a sheet, a tube or a profile.

24. The article according to claim 23, wherein said sheet or film is bonded onto a ski.

25. The article according to claim 24, wherein said article is decorated by sublimation and coated with a transparent protective layer comprising said composition.

26. The composition according to claim 1, wherein (B) is condensed from monomers comprising said at least one monomer said monomer being selected from the group aminocaproic acid, 7-aminoheptanoic acid, 11-aminoundecanoic acid, and 12-aminododecanoic acid.

27. The composition according to claim 2, wherein said lactam comprises caprolactam, oenantholactum or lauryllactam.

28. The composition according to claim 1, wherein (B) is condensed from monomers comprising said at least one monomer said monomer being selected from hexamethylenediamine, dodecamethylenediamine, or trimethylhexamethylenediamine.

29. The composition according to claim 1, wherein (B) is condensed from monomers comprising said at least one monomer said monomer being selected from adipic acid, azelaic acid, suberic acid, sebacic acid, or dodecanedicarboxylic acid.

30. The composition according to claim 1, wherein said semi-crystalline polyamide (A) is an aliphatic polyamide selected from: polycaprolactam (PA-6), polyundecanamide (PA-11), polyauryllactam (PA-12), polybutylenedipamide (PA-4,6), polyhexamethylenedipamide (PA-6,6), polyhexamethyleneazelaamide (PA-6,9), polyhexamethylenesebacamide (PA-6,10), polyhexamethylenedodecanamide (PA-6,12), polydecamethylenedodecanamide (PA-10,12), polydecamethylenesebacanamide (PA-10,10), and polydodecamethylenedodecanamide (PA-12,12).

31. The composition according to claim 30, wherein said (A) comprises a blend of aliphatic polyamides.

32. The composition according to claim 1, wherein said optionally cycloaliphatic diamine comprises at least one isomer of: bis(4-aminocyclohexyl)methane (BACM), bis(3-methyl-4-aminocyclohexyl)methane (BACM) and 2-2-bis(3-methyl-4-aminocyclohexyl)propane(BMACP).

33. The composition according to claim 1, wherein said aromatic diacid comprises terephthalic acid or isophthalic acid.

34. The composition according to claim 1, wherein said amorphous polyamide (B) comprises a mixture of several amorphous polyamides.

35. The composition according to claim 1, comprising the supple polyamide (C).

36. The supple polyamide (C) according to claim 1, wherein said copolyamide results from the condensation of at least one α,ω -aminocarboxylic acid, at least one diamine and at least one dicarboxylic acid.

37. The supple polyamide (C) according to claim 1, wherein said copolyamide results from the condensation of at least two α,ω -aminocarboxylic acids.

38. The supple polyamide (C) according to claim 35, wherein said polyamide blocks have a number-average molar mass between 300 and 15,000.

39. The supple polyamide(C) according to claim 35, wherein said polyether blocks have a number-average molar mass between 100 and 6,000.

40. The composition according to claim 1, comprising said compatibilizer (D) allowing a reduction in the temperature required to make the blend of (A) and (B) transparent.

41. The composition according to claim 40, wherein said compatibilizer (D) is a catalyzed aliphatic polyamide.

42. The composition according to claim 1 prepared by melt-blending.

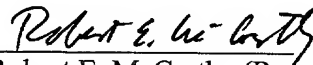
43. An article according to claim 22 produced by extrusion.

44. The composition according to claim 1 comprising a stabilizer, an antioxidant or a UV stabilizer. --

REMARKS

The principal purpose of this Preliminary Amendment is to eliminate multiply dependent claims and the fee associated therewith. Applicants reserve the right to reintroduce claims to cancelled subject matter.

Respectfully submitted,



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VERSION TO SHOW MARKED UP CLAIMS

1. (Amended) A transparent ~~Transparent~~ composition comprising, by weight, the total being 100%:

5 to 40% of an amorphous polyamide (B) which results ~~essentially~~ from the condensation of at least one optionally cycloaliphatic diamine, of at least one aromatic diacid and optionally of at least one monomer chosen from:

α,ω -aminocarboxylic acids,
aliphatic diacids,
aliphatic diamines,

0 to 40% of a supple polyamide (C) chosen from copolymers containing polyamide blocks and polyether blocks and copolyamides,

0 to 20% of a compatibilizer (D) for (A) and (B),

(C) + (D) is between 2% and 50%,

with the condition that (B) + (C) + (D) is not less than 30%, and

the difference to 100% is made up with ~~being~~ a semi-crystalline polyamide (A).

2. (Amended) The composition ~~Composition~~ according to claim 1, wherein ~~in which~~ (A) is derived from the condensation of a lactam containing at least 9 carbon atoms, of an α,ω -aminocarboxylic acid containing at least 9 carbon atoms or of a diamine and a diacid wherein ~~such that~~ the diamine or the diacid contains at least 9 carbon atoms.

3. (Amended) The composition ~~Composition~~ according to ~~any one of the preceding claims~~ claim 1, ~~in which~~ wherein (A) is ~~PA-11~~ PA-11 or ~~PA-12~~ PA-12.

4. (Amended) The composition ~~Composition~~ according to ~~any of the preceding claims~~ claim 1, wherein ~~in which~~ (A) is an equilibrated polyamide.

5. (Amended) The composition ~~Composition~~ according to any of the preceding claims claim 1, wherein ~~in which~~ the amorphous polyamide (B) comprises a cycloaliphatic diamine.

6. (Amended) The composition ~~Composition~~ according to any one of the preceding claims claim 1, in which comprising (C) and wherein (C) is a copolymer comprising polyamide blocks and polyether blocks.

7. (Amended) The composition ~~Composition~~ according to claim 6, wherein in which the copolymer containing polyamide blocks and polyether blocks consists of are PA-6 or PA-12 ~~PA-6 or PA-12~~ blocks and the polyether blocks are polytetramethylene glycol (PTMG) ~~PTMG~~ blocks.

8. (Amended) The composition ~~Composition~~ according to any one of Claims claim 1 to 5, in which comprising (C) and wherein (C) is a copolyamide.

9. (Amended) The composition ~~Composition~~ according to any one of the preceding claims claim 1, in which wherein (A) is PA-12 ~~PA-12~~ and comprising (D) wherein (D) is PA-11 ~~PA-11~~.

10. (Amended) The composition ~~Composition~~ according to any one of the preceding claims claim 1, in which the compatibilizer comprising (D) and wherein (D) is a catalyzed polyamide.

11. (Amended) The composition ~~Composition~~ according to any one of the preceding claims claim 1, in which wherein (A) is PA-12 ~~PA-12~~ and comprising (D) wherein (D) is a catalyzed PA-11 ~~PA-11~~.

12. (Amended) The composition ~~Composition~~ according to any one of Claims 1 to 11, in which claim 1, wherein the proportion of (B) is between 10% and 40%.

13. (Amended) The composition ~~Composition~~ according to claim 12, wherein ~~in which~~ the proportion of (B) is between 20% and 40%.

14. (Amended) The composition ~~Composition~~ according to ~~any one of the preceding claims,~~ claim 1, wherein the proportion of (C) + (D) is between 5% and 40%.

15. (Amended) The composition ~~Composition~~ according to claim 14, ~~in which~~ wherein the proportion of (C) + (D) is between 10% and 40%.

16. (Amended) An article ~~Articles consisting of a composition according to any one4 of the preceding claims, such as plates, films, sheets tubes and profiles, to the articles obtained by injection moulding and in particular to the films and sheets which are then bonded onto skis produced by injection-molding a composition according to claim 1.~~

17. (Amended) The article ~~Articles~~ according to claim 16, wherein said article is ~~which are~~ decorated, ~~for example~~ by sublimation, and coated with a transparent protective layer, ~~consisting of the composition according to any one of Claims 1 to 15.~~